

Work Order ID 64157

**PRELIMINARY ISSUE**

Thursday, November 25, 2010 4:01:15 PM

Page 1

Item ID: D4298-012

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: Hinge

Start Date: 11/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 12/3/2010 Req'd Qty: 1.00



Customer:



Reference:

Run Start



Approvals:

Process Plan:

*H*

Date: 10-11-26

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4298	PAT A <i>J</i>

100

0.00



Bandsaw

Memo

0.00

Jeaspa Bandsaw

*smk 10/12/08*

1 0 \_\_\_\_\_

105

0.00



HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

*smk 10/12/08*

1 0 \_\_\_\_\_

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

*smk 10/12/08*

1 0 \_\_\_\_\_

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 64157

Thursday, November 25, 2010 4:01:15 PM



Page 2

Item ID: D4298-012

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: Hinge

Start Date: 11/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 12/3/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

8.01/2/08 @  
- inspecter em Dwy  
- 012 only

130

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

all 10/12/09

1 0

140

Black Sandtex(Ref:4.3.5.7) per QSI005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

POWDER COAT:  
Start Time: 9:05  
Oven Temperature: 320°  
Finish Time: 9:35

1 10-12-9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 64157**

Thursday, November 25, 2010 4:01:15 PM



Page 3

Item ID: D4298-012

Accept



Setup Start



Revision ID: PREL 'M

Stop



Item Name: Hinge

Start Date: 11/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 12/3/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150



QC

Quality Control

QC3- Inspect Part Finish

0.00

HL

10/12/09

0.00

Memo

X1 0

160



Small Fab

Small Fab

Memo

1- Assemble as per dwg

0.00

0.00

E 10/12/15 0

170



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

E 10.12.15 0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_






NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries



**Work Order ID 64157**

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Thursday, November 25, 2010 4:01:15 PM


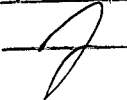
Item ID: D4298-012 Accept  Setup Start   
Revision ID: PRF IM Stop   
Item Name: Hinge  
Start Date: 11/25/2010 Start Qty: 1.00  Cust Item ID:  
Required Date: 12/3/2010 Req'd Qty: 1.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 	Identify as per dwg & Stock Location: _____	0.00							
Packaging Packaging	Memo	0.00							
200 	QC21- Final Inspection - Work Order Release	0.00							
QC Quality Control	Memo	0.00							

MF  
10-12-15

POSITIVE RECALL

EFFECTIVE 10.11.29 AUTH   
RELEASED  DATE 10.12.17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Page 1

Thursday, November 25, 2010 4:01:19 PM

Work Order ID: 64157

Parent Item: D4298-012

Parent Item Name: Linage



Start Date: 11/25/2010

Required Date: 12/3/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP revA 10.11.25 new issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4298-024		Manufactured	No				Each	0.0000	0.391	0.411579			
-----------	--	--------------	----	--	--	--	------	--------	-------	----------	--	--	--



Serrated Adjustment Washer

B 64144



SA 10/12/15

M6061T6B0.750X02.00  
0

Purchased No

f 33.7965 1 1



6061-T6 Bar .750 x 2.00

Location

Loc Qty

Loc Code

MAT03

33.7965

100742

9.5

111448

24.2965

x 1.0 MR 10/12/08

MS20426AD3-6

Purchased No

Each 1,314.000 1



SA 10/12/15

Rivet

Location

Loc Qty

Loc Code

ST316

1314

105055

1314

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order: 64157
Description: HINGE		Part Number: D4298-012
Inspection Dwg: D4298 Rev: E RA -012		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

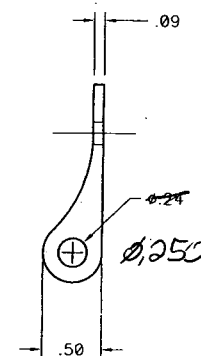
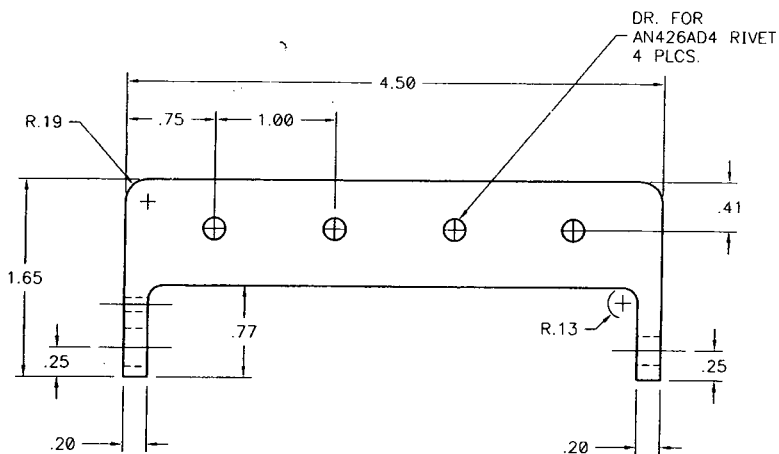
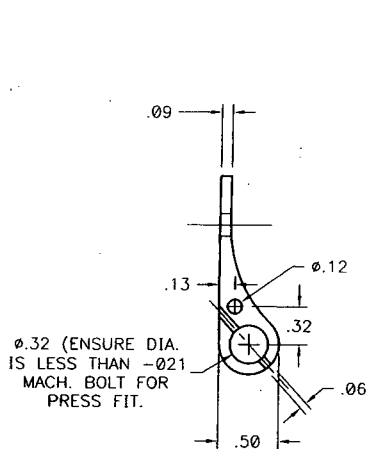
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.90	$\pm .030$	.088	—		Vern	HL-7
Ø.250	$\pm .005$ $\pm .001$	Ø.252	—		"	"
.50	$\pm .030$	.500	—		"	"
Ø.098	$\pm .004$ $\pm .001$	Ø.098	—		"	"
.13	$\pm .030$	.130	—		"	"
.06	$\pm .030$	.063	—		"	"
.035 deep	$\pm .010$	.045	—		"	"
1.65	$\pm .030$	1.650	—		"	"
.25	$\pm .030$	.250	—		"	"
.20	$\pm .030$	.200	—		"	"
.72	$\pm .030$	.767	—		"	"
.75	$\pm .030$	.750	—		"	"
1.00	$\pm .030$	1.000	—		"	"
4.500	$\pm .030$	4.503	—		"	"
.41	$\pm .030$	.407	—		"	"
Ø.257	$\pm .005$ $\pm .001$	Ø.257	—		"	"

Measured by: <i>mf</i>	Audited by: <i>S</i>	Preliminary Approval:
Date: 10/12/08	Date: 10/12/08	Date:

Inspect to E RA Dg -012

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

*10.04.15*

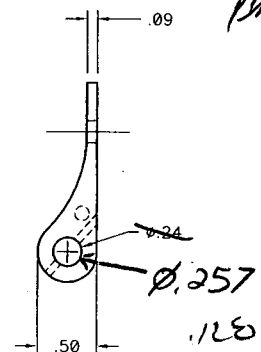
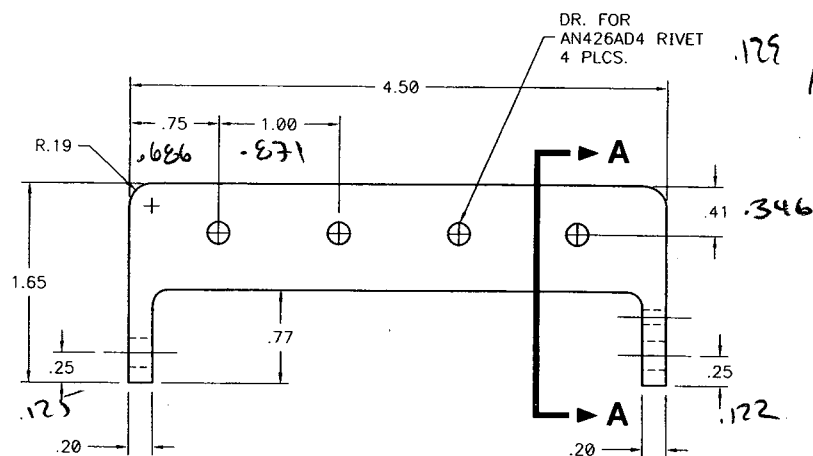
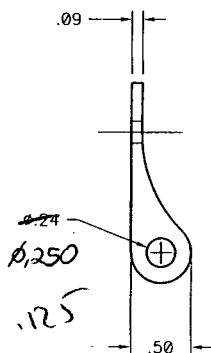


-011 HINGE

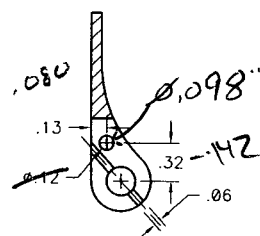
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 44157

10-11-26



-012 HINGE



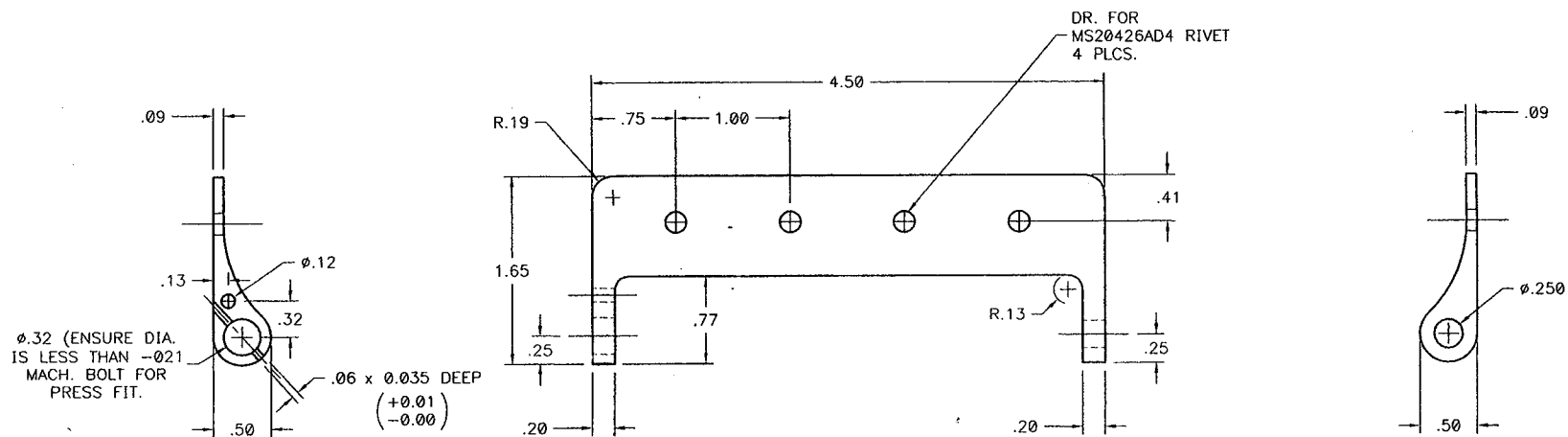
SECTION A-A

PROPRIETARY RIGHTS NOTICE

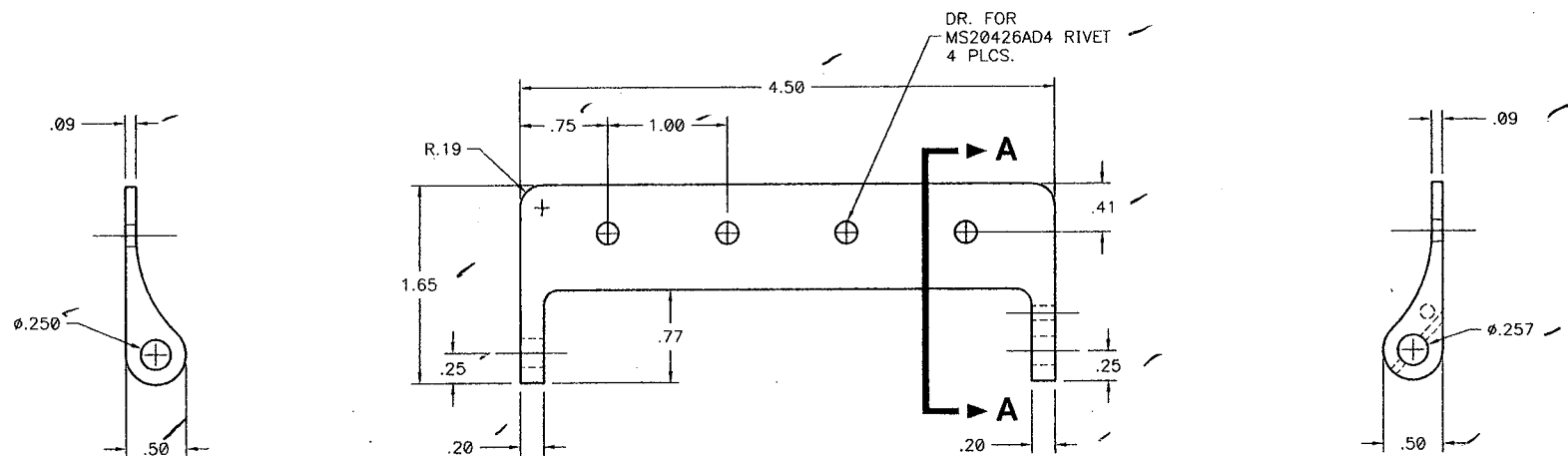
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Era Helicopters LLC



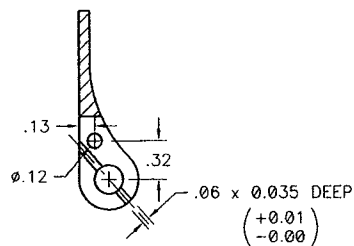


-011 HINGE



-012 HINGE

W/O 64157



SECTION A-A

PROPRIETARY RIGHTS NOTICE

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Era Helicopters LLC

TITLE	SIZE	DWG. NO.	REV.
SINGLE PILOT VFR CHART HOLDER, AW139	C	13939-1-290 SHT 7 OF 10	D

DART P/N	ERA P/N	Description
D4298-001	13939-1-290-001	CHART HOLDER ASSY
D4298-002	13939-1-290-002	PLATE SUB-ASSY
D4298-003	13939-1-290-003	PLATE SUB-ASSY
D4298-004	13939-1-290-004	FIXING BRACKET SUB-ASSY
D4298-005	13939-1-290-005	HINGE SUB-ASSY
D4298-006	13939-1-290-006	MACHINED INNER SUB-ASSY
D4298-007	13939-1-290-007	MACHINED OUTER SUB-ASSY
D4298-008	13939-1-290-008	PLATE
D4298-009	13939-1-290-009	PLATE
D4298-010	13939-1-290-010	FIXING BRACKET
D4298-011	13939-1-290-011	HINGE
D4298-012	13939-1-290-012	HINGE
D4298-013	13939-1-290-013	HINGE
D4298-014	13939-1-290-014	HINGE
D4298-015	13939-1-290-015	CLIP ANGLE
D4298-016	13939-1-290-016	CLIP STOP
D4298-017	13939-1-290-017	CLIP STOP MOUNT
D4298-018	13939-1-290-018	MACHINED INNER
D4298-019	13939-1-290-019	MACHINED OUTER
D4298-020	13939-1-290-020	KNOB
D4298-021	13939-1-290-021	MACHINE BOLT
D4298-022	13939-1-290-022	PIN TOPPER
D4298-023	13939-1-290-023	PIN
D4298-024	13939-1-290-024	SERRATED ADJUSTMENT WASHER

RELEASED  
2010-12-15  
*W*

*W/D 6-11-15*

A	NEW ISSUE	SC	10.12.15
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	<i>W</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>W</i>	D4298	SHEET 1 OF 1
APPROVED	<i>W</i>	TITLE	SCALE
DE APPR.	<i>W</i>	CHART HOLDER (AW 139)	NTS
DATE	10.12.15	COPYRIGHT © 2010 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	